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JAN 29 2004
PATENT & TRADEMARK OFFICE

FIG. 1

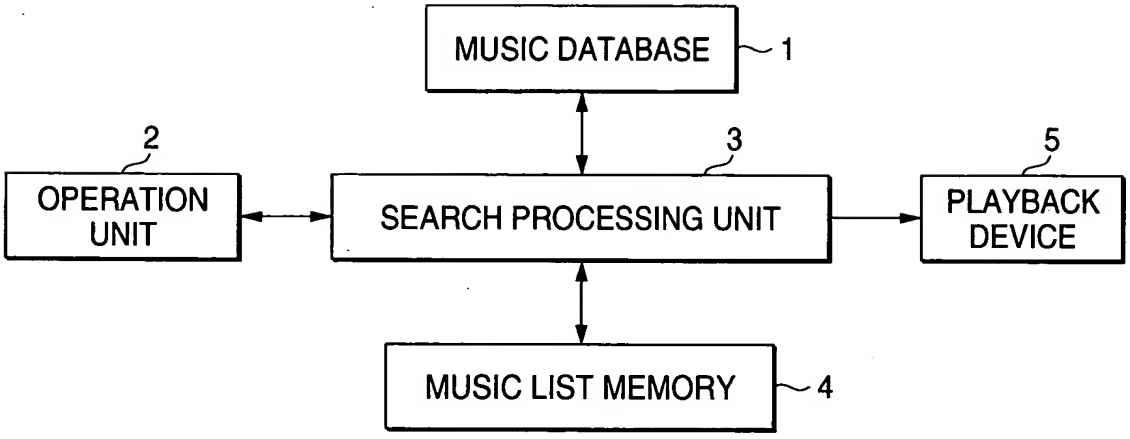


FIG. 2

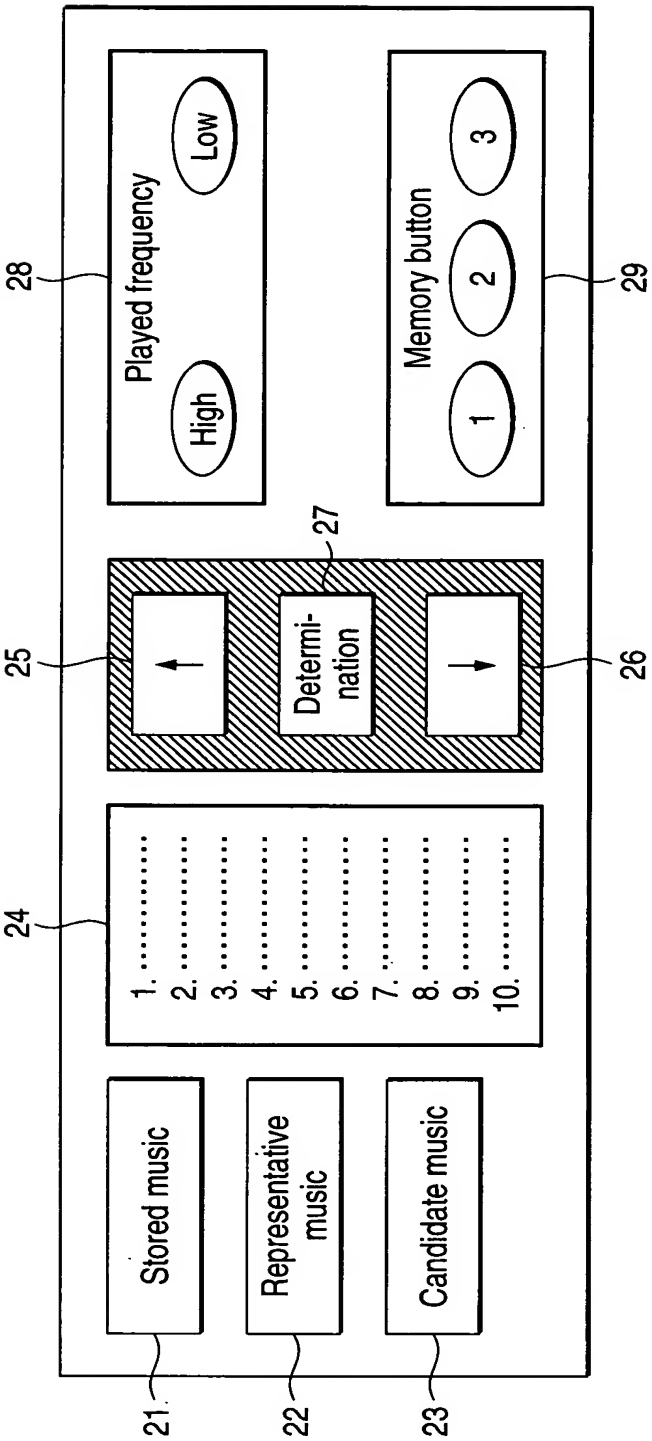

Played frequency
Low
High
28
Memory button
3
2
1
29
27
25
Determi-
nation
26
24
1. .....
2. .....
3. .....
4. .....
5. .....
6. .....
7. .....
8. .....
9. .....
10. .....
Stored music
Representative
music
Candidate music
21
22
23

FIG. 3

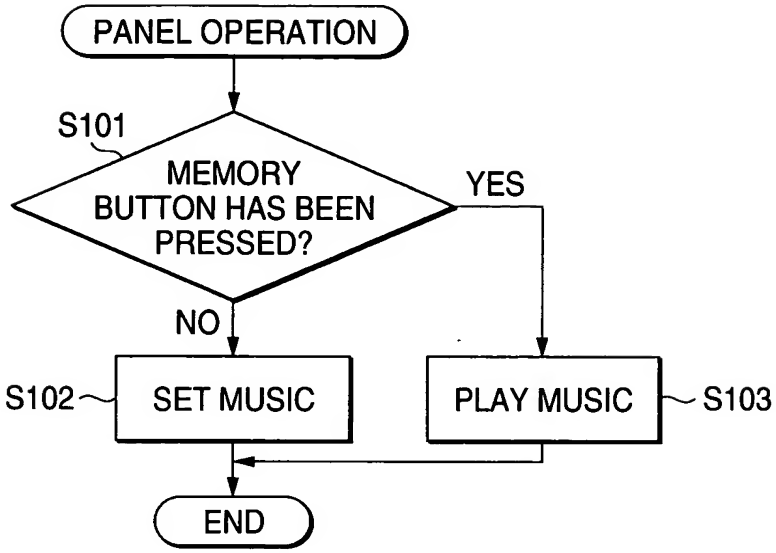

PANEL OPERATION
S101
MEMORY BUTTON HAS BEEN PRESSED?
YES
NO
S102
SET MUSIC
PLAY MUSIC
S103
END

FIG. 4

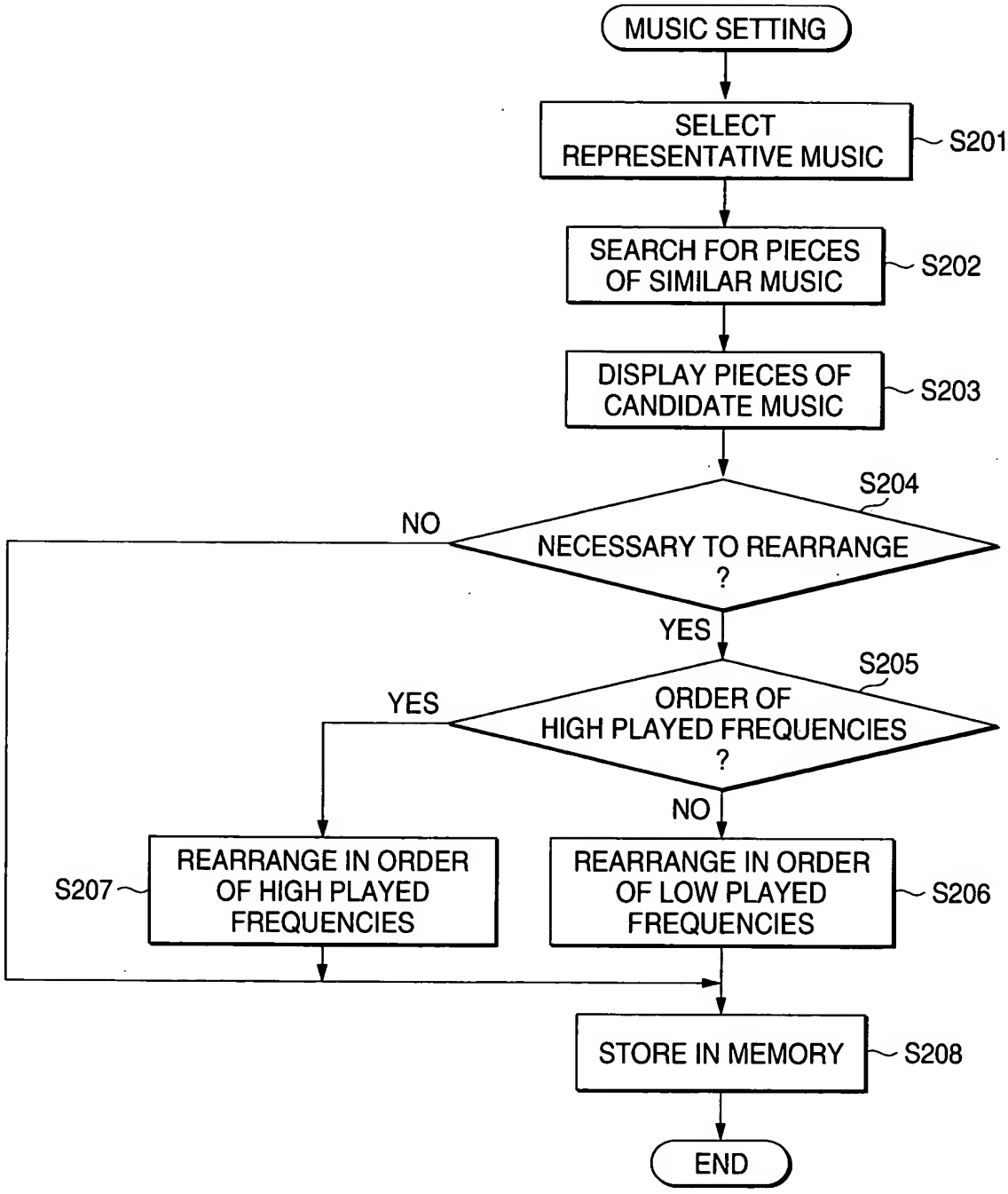

MUSIC SETTING
SELECT REPRESENTATIVE MUSIC
S201
SEARCH FOR PIECES OF SIMILAR MUSIC
S202
DISPLAY PIECES OF CANDIDATE MUSIC
S203
S204
NECESSARY TO REARRANGE ?
NO
YES
S205
ORDER OF HIGH PLAYED FREQUENCIES ?
YES
NO
REARRANGE IN ORDER OF HIGH PLAYED FREQUENCIES
S207
REARRANGE IN ORDER OF LOW PLAYED FREQUENCIES
S206
STORE IN MEMORY
S208
END

FIG. 5A

NO.	TITLE	SIMILARITY	PLAYED FREQUENCY	PREFERENCE COEFFICIENT
1	A	2.1	8	18.9
2	B	1.8	7	14.4
3	C	1.6	10	17.6
4	D	1.5	9	15.0
5	E	1.4	6	9.8
6	F	1.1	4	5.5
7	G	0.9	12	11.7
8	H	0.8	3	3.2
9	I	0.8	2	2.4
10	J	0.7	1	1.4

FIG. 5B

NO.	TITLE	SIMILARITY	PLAYED FREQUENCY	PREFERENCE COEFFICIENT
1	G	0.9	12	11.7
2	C	1.6	10	17.6
3	D	1.5	9	15.0
4	A	2.1	8	18.9
5	B	1.8	7	14.4
6	E	1.4	6	9.8
7	F	1.1	4	5.5
8	H	0.8	3	3.2
9	I	0.8	2	2.4
10	J	0.7	1	1.4

FIG. 6A

NO.	TITLE	SIMILARITY	PLAYED FREQUENCY	PREFERENCE COEFFICIENT
1	G	0.9	12	11.7
2	C	1.6	10	17.6
3	D	1.5	9	15.0
4	A	2.1	8	18.9
5	B	1.8	7	14.4
6	E	1.4	6	9.8
7	F	1.1	4	5.5
8	H	0.8	3	3.2
9	I	0.8	2	2.4
10	J	0.7	1	1.4

FIG. 6B

NO.	TITLE	SIMILARITY	PLAYED FREQUENCY	PREFERENCE COEFFICIENT
1	A	2.1	8	18.9
2	C	1.6	10	17.6
3	D	1.5	9	15.0
4	B	1.8	7	14.4
5	G	0.9	12	11.7
6	E	1.4	6	9.8
7	F	1.1	4	5.5
8	H	0.8	3	3.2
9	I	0.8	2	2.4
10	J	0.7	1	1.4

FIG. 7A

NO.	TITLE	SIMILARITY	PLAYED FREQUENCY	STIMULATION COEFFICIENT
1	A	2.1	8	18.9
2	B	1.8	7	14.4
3	C	1.6	10	17.6
4	D	1.5	9	15.0
5	E	1.4	6	9.8
6	F	1.1	4	5.5
7	G	0.9	12	11.7
8	H	0.8	3	3.2
9	I	0.8	2	2.4
10	J	0.7	1	1.4

FIG. 7B

NO.	TITLE	SIMILARITY	PLAYED FREQUENCY	STIMULATION COEFFICIENT
1	J	0.7	1	0.350
2	I	0.8	2	0.267
3	H	0.8	3	0.200
4	F	1.1	4	0.220
5	E	1.4	6	0.200
6	B	1.8	7	0.225
7	A	2.1	8	0.233
8	D	1.5	9	0.150
9	C	1.6	10	0.145
10	G	0.9	12	0.069

FIG. 8A

NO.	TITLE	SIMILARITY	PLAYED FREQUENCY	STIMULATION COEFFICIENT
1	J	0.7	1	0.350
2	I	0.8	2	0.267
3	H	0.8	3	0.200
4	F	1.1	4	0.220
5	E	1.4	6	0.200
6	B	1.8	7	0.225
7	A	2.1	8	0.233
8	D	1.5	9	0.150
9	C	1.6	10	0.145
10	G	0.9	12	0.069

FIG. 8B

NO.	TITLE	SIMILARITY	PLAYED FREQUENCY	STIMULATION COEFFICIENT
1	J	0.7	1	0.350
2	I	0.8	2	0.267
3	B	1.8	7	0.225
4	A	2.1	8	0.233
5	F	1.1	4	0.220
6	E	1.4	6	0.200
7	H	0.8	3	0.200
8	D	1.5	9	0.150
9	C	1.6	10	0.145
10	G	0.9	12	0.069

FIG. 9

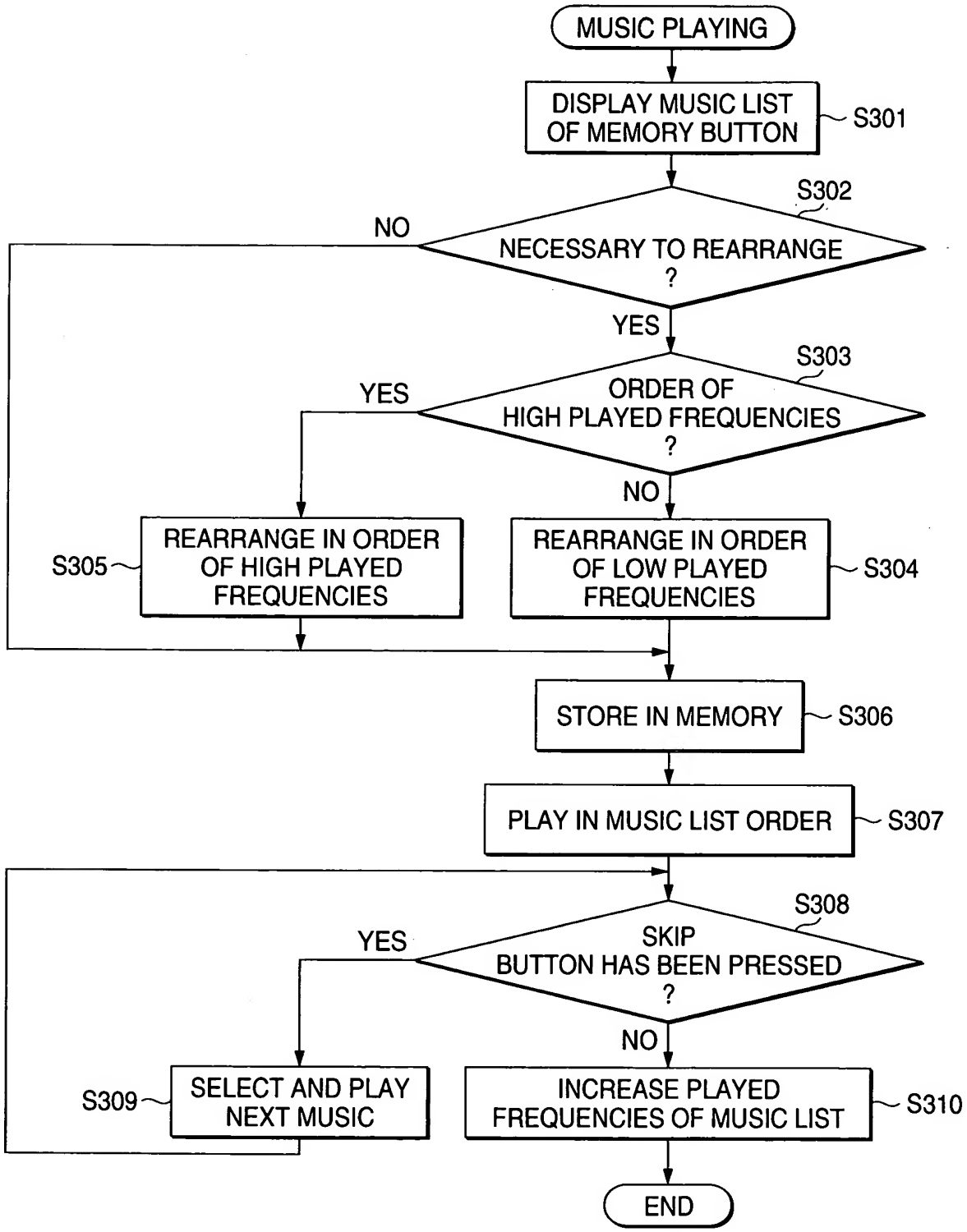

MUSIC PLAYING
DISPLAY MUSIC LIST OF MEMORY BUTTON
S301
S302
NECESSARY TO REARRANGE ?
NO
YES
S303
ORDER OF HIGH PLAYED FREQUENCIES ?
YES
NO
REARRANGE IN ORDER OF HIGH PLAYED FREQUENCIES
S305
REARRANGE IN ORDER OF LOW PLAYED FREQUENCIES
S304
STORE IN MEMORY
S306
PLAY IN MUSIC LIST ORDER
S307
S308
SKIP BUTTON HAS BEEN PRESSED ?
YES
NO
SELECT AND PLAY NEXT MUSIC
S309
INCREASE PLAYED FREQUENCIES OF MUSIC LIST
S310
END

FIG. 10A

NO.	TITLE	SIMILARITY	PLAYED FREQUENCY	PREFERENCE COEFFICIENT
1	A	2.1	8 + 1	18.9 → 21.0
2	C	1.6	10 + 1	17.6 → 19.2
3	D	1.5	9	15.0
4	B	1.8	7 + 1	14.4 → 16.2
5	G	0.9	12 + 1	11.7 → 12.6
6	E	1.4	6	9.8
7	F	1.1	4	5.5
8	H	0.8	3	3.2
9	I	0.8	2	2.4
10	J	0.7	1	1.4

FIG. 10B

NO.	TITLE	SIMILARITY	PLAYED FREQUENCY	PREFERENCE COEFFICIENT	COEFFICIENT RANK
1	A	2.1	8 + 1	21.0	→
2	C	1.6	10 + 1	19.2	→
3	B	1.8	7 + 1	16.2	↑
4	D	1.5	9	15.0	↓
5	G	0.9	12 + 1	12.6	→
6	E	1.4	6	9.8	→
7	F	1.1	4	5.5	→
8	H	0.8	3	3.2	→
9	I	0.8	2	2.4	→
10	J	0.7	1	1.4	→

FIG. 11A

NO.	TITLE	SIMILARITY	PLAYED FREQUENCY	SIMULATION COEFFICIENT
1	J	0.7	1 + 1	0.350 → 0.233
2	I	0.8	2	0.267
3	B	1.8	7 + 1	0.225 → 0.200
4	A	2.1	8 + 1	0.233 → 0.210
5	F	1.1	4 + 1	0.220 → 0.183
6	E	1.4	6	0.200
7	H	0.8	3	0.200
8	D	1.5	9	0.150
9	C	1.6	10	0.145
10	G	0.9	12	0.069

FIG. 11B

NO.	TITLE	SIMILARITY	PLAYED FREQUENCY	SIMULATION COEFFICIENT	COEFFICIENT RANK
1	I	0.8	2	0.267	↑
2	J	0.7	1 + 1	→ 0.233	↓
3	A	2.1	8 + 1	→ 0.210	↑
4	B	1.8	7 + 1	→ 0.200	↓
5	E	1.4	6	0.200	↑
6	H	0.8	3	0.200	↑
7	F	1.1	4 + 1	→ 0.183	↓
8	D	1.5	9	0.150	→
9	C	1.6	10	0.145	→
10	G	0.9	12	0.069	→

FIG. 12

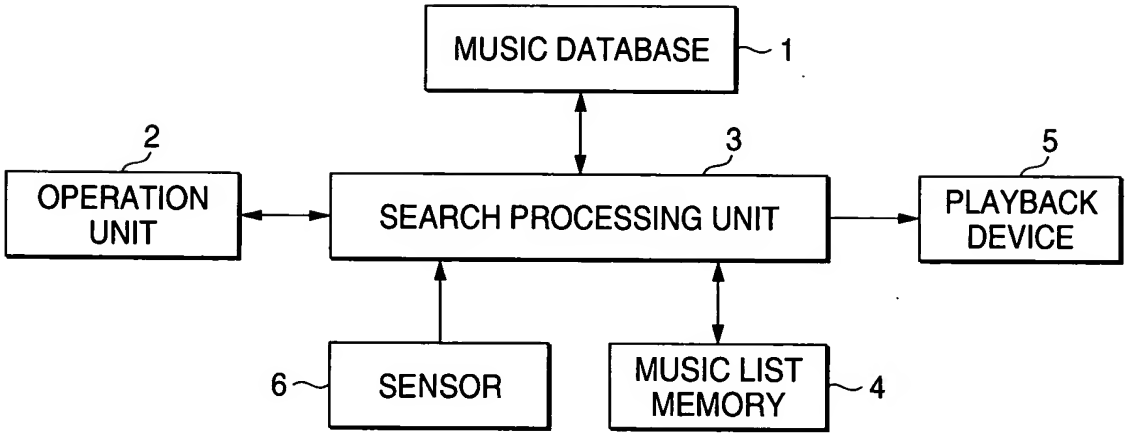

MUSIC DATABASE
1
2
OPERATION UNIT
3
SEARCH PROCESSING UNIT
5
PLAYBACK DEVICE
6
SENSOR
MUSIC LIST MEMORY
4

FIG. 13

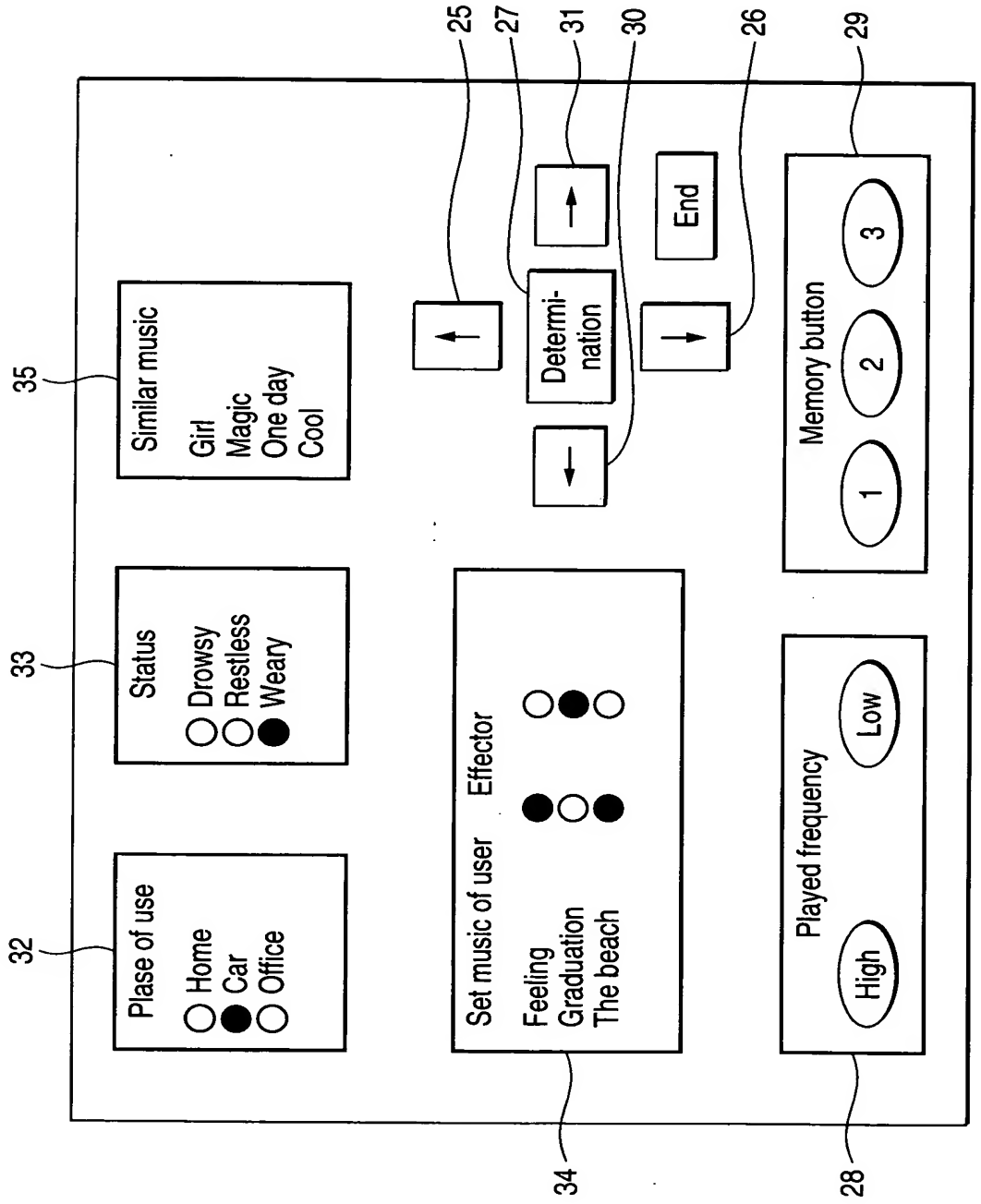

25
27
31
30
26
29
35
Similar music
Girl
Magic
One day
Cool
Determi-
nation
End
Memory button
1
2
3
33
Status
Drowsy
Restless
Weary
Set music of user
Effector
Feeling
Graduation
The beach
Played frequency
Low
High
32
Plase of use
Home
Car
Office
34
28

FIG. 14

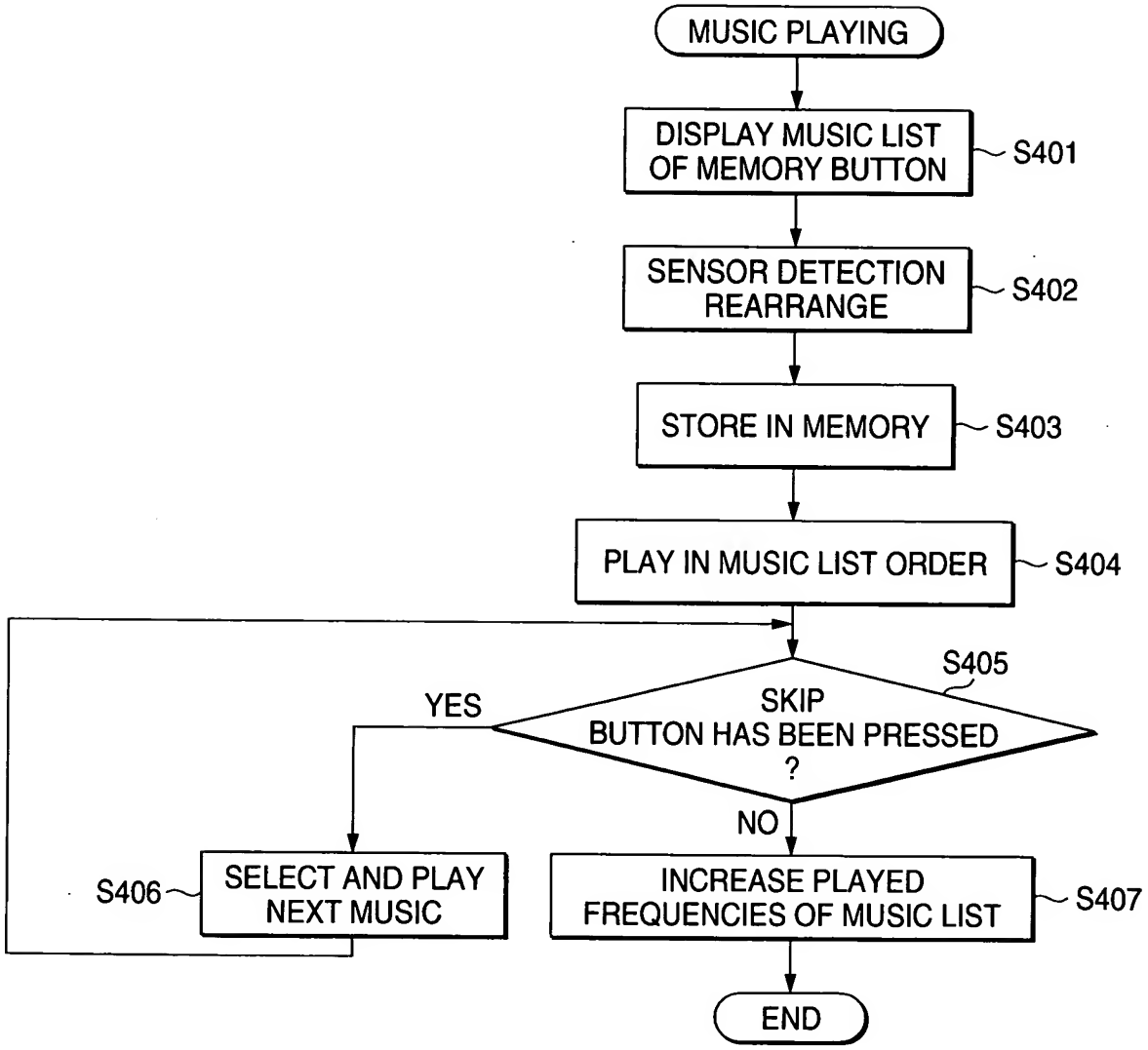

MUSIC PLAYING
DISPLAY MUSIC LIST OF MEMORY BUTTON
S401
SENSOR DETECTION REARRANGE
S402
STORE IN MEMORY
S403
PLAY IN MUSIC LIST ORDER
S404
S405
SKIP BUTTON HAS BEEN PRESSED ?
YES
NO
S406
SELECT AND PLAY NEXT MUSIC
INCREASE PLAYED FREQUENCIES OF MUSIC LIST
S407
END

FIG. 15

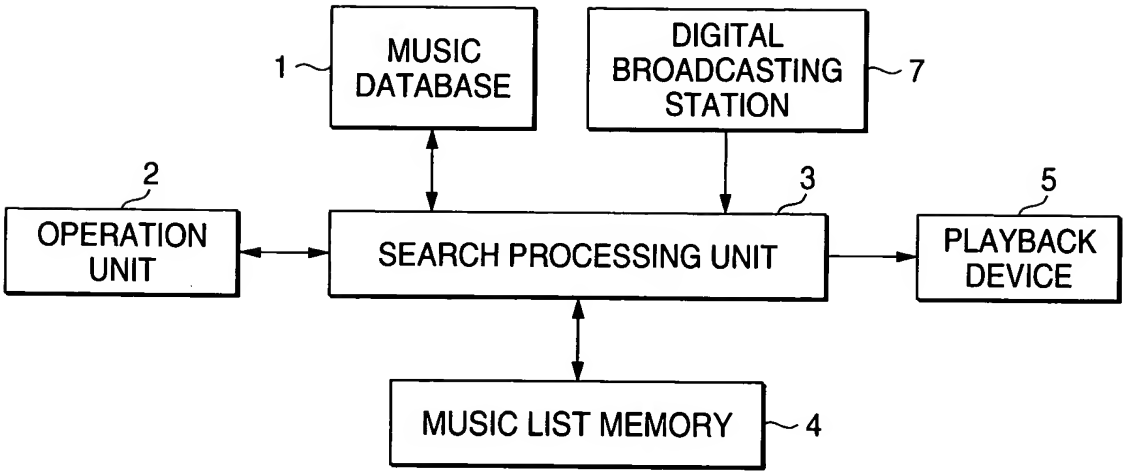
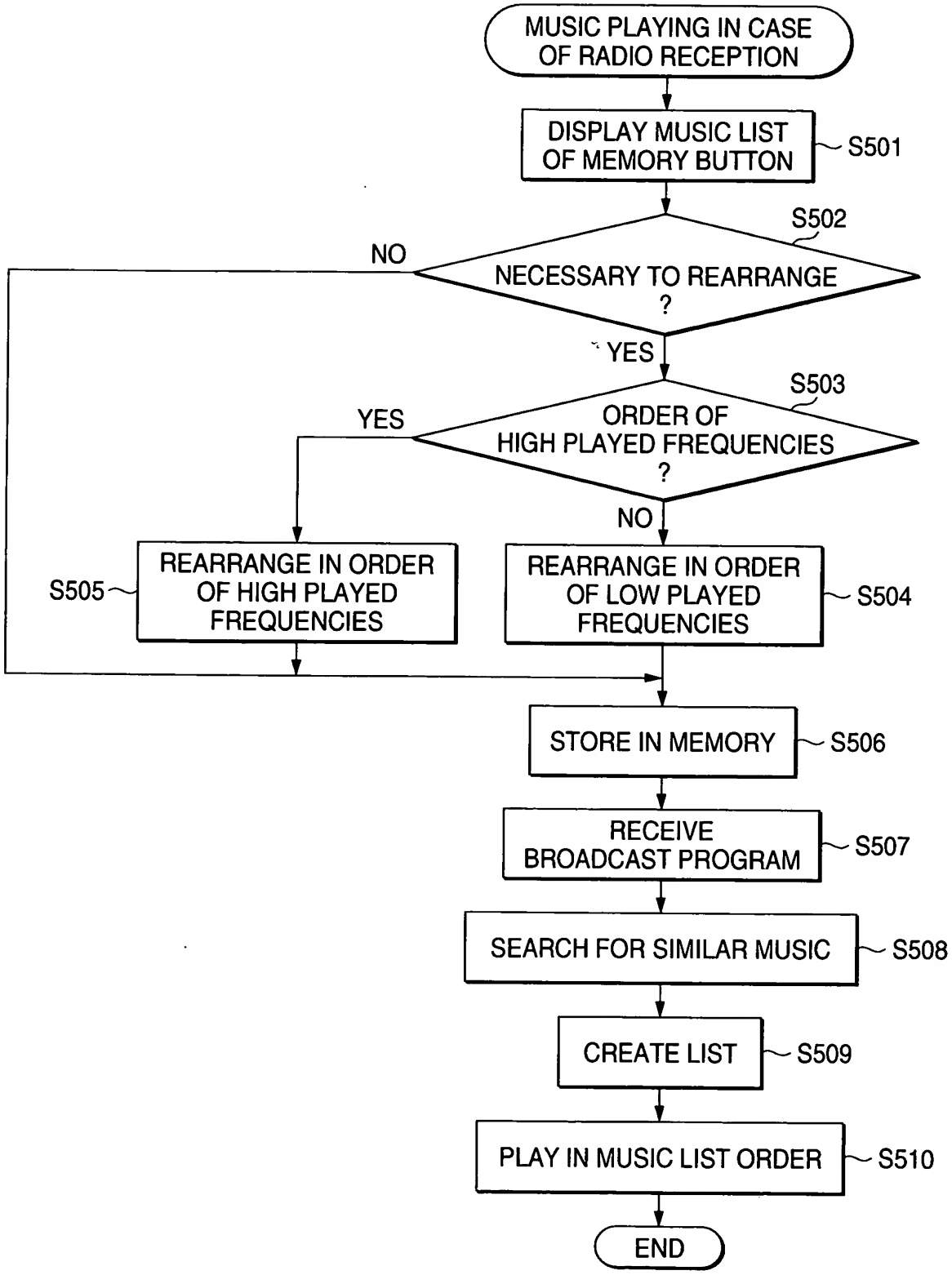

1
MUSIC DATABASE
DIGITAL BROADCASTING STATION
7
2
OPERATION UNIT
3
SEARCH PROCESSING UNIT
5
PLAYBACK DEVICE
MUSIC LIST MEMORY
4

FIG. 16


MUSIC PLAYING IN CASE OF RADIO RECEPTION
DISPLAY MUSIC LIST OF MEMORY BUTTON
S501
S502
NECESSARY TO REARRANGE ?
NO
YES
S503
ORDER OF HIGH PLAYED FREQUENCIES ?
YES
NO
REARRANGE IN ORDER OF HIGH PLAYED FREQUENCIES
S505
REARRANGE IN ORDER OF LOW PLAYED FREQUENCIES
S504
STORE IN MEMORY
S506
RECEIVE BROADCAST PROGRAM
S507
SEARCH FOR SIMILAR MUSIC
S508
CREATE LIST
S509
PLAY IN MUSIC LIST ORDER
S510
END